PART I

INTRODUCTION

1

The Advent of Experimental Political Science

1.1 The Increase in Experimentation in Political Science

> In some sense every empirical researcher is reporting the results of an experiment. Every researcher who behaves as if an exogenous variable varies independently of an error term effectively views their data as coming from an experiment. In some cases this belief is a matter of *a priori* judgement; in some cases it is based on auxiliary evidence and inference; and in some cases it is built into the design of the data collection process.
>
> (Harrison and List, 2004, p. 1009)

Increasingly, political scientists are thinking about their empirical research as in the quotation from Harrison and List, using the terms experiment or experimental to describe their approach or the reasoning behind their choices. In the coming chapters we explore in depth what researchers often mean when they use these terms (which varies depending on the researcher's perspective) and our own definitions of these terms.[1] But before undertaking that task, which is more complicated than some readers might expect, it is noteworthy that the increasing use of these terms to describe a study, although somewhat ambiguous in meaning, suggests that a significant change in perspective in the discipline of political science is occurring. Until the past decade, experimentation seemed to have a low standing within the discipline. For example, McDermott (2002) surveyed a set of political science, psychology, and economics journals and found only 105 experimental articles by political scientists she labels as "established" from 1926 to 2000, with only 57 of these in political science journals.[2]

[1] We formally define experiments in Section 2.4.2 and discuss some of the controversies over defining experimentation in that section as well.

[2] McDermott's restriction by unexplained characteristics of the author results in serious undercounting of experimental research, which we discuss in the next section. For example,

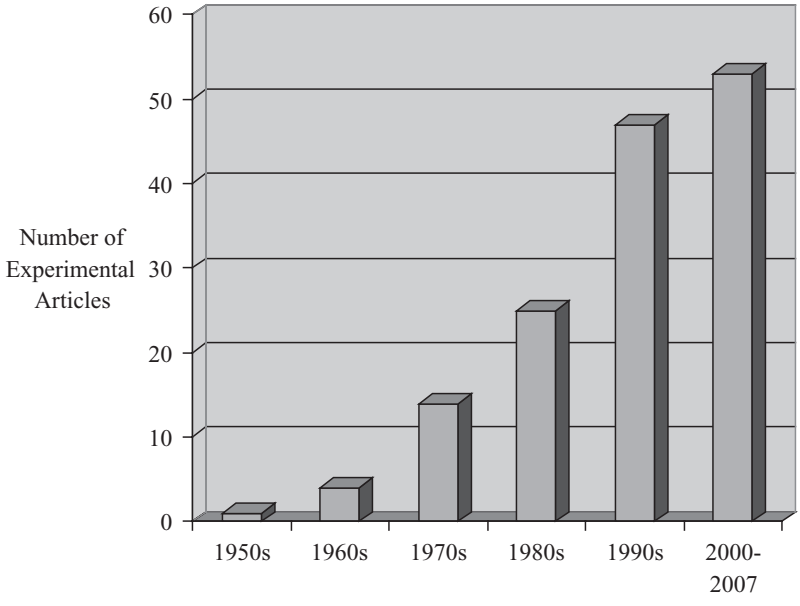

Figure 1.1 Experimental Articles in the American Political Science Review, American Journal of Political Science, and the Journal of Politics.

Yet many see evidence of the increase in the ranking of experimentation within the discipline. For example, Druckman et al. (2006) document the increase of experimental research papers in the discipline's arguably premier journal, the *American Political Science Review* (APSR). They found that more than half of the experimental articles that they classify as a "conventional experiment" appeared in the APSR after 1992. The APSR is not the only premier journal in political science where experimentation appears to have increased. According to McGraw and Hoekstra (1994), from 1950 to 1992, 58 journal articles with experiments appeared in the three major mainstream journals – APSR, the *American Journal of Political Science* (AJPS), and the *Journal of Politics* (JOP). In the next five years (1993–1997), 28 such articles were published (approximately 33% of the total from 1950 to 1997).

Figure 1.1 shows the number of experimental articles published by decade in these three journals through 2007 and that number has increased at an

she reports that in the 1990s only five experimental papers were published in the APSR. According to our count, excluding survey experiments, there were thirteen experimental papers published in the APSR during this period, with at least one in every year with the exception of 1996, although a survey experiment was published in that year.

astonishing rate.[3] These figures do not include the use of so-called survey experiments, as in 14 additional articles published from 2000 to 2005 in the APSR, AJPS, and JOP, making the total of experimental publications in the first five years of the twenty-first century equal to 47, which equals the entirety published in the 1990s. The evidence suggests, as Druckman et al. (2006) have argued, that experimentation is receiving new prominence within the discipline of political science. They conclude from their study that "[e]xperiments in political science have progressed from a method used in the occasional anomalous study to a generally accepted and influential approach" (p. 634). Recognition of the status of experimentation in political science is exemplified in the pride that many political scientists have taken in the awarding of the 2009 Nobel Prize in Economics to an experimental political scientist, Elinor Ostrom.

1.2 Is the Increase in Experimentation Real?

1.2.1 How "New" Is Experimental Political Science?

Is the increase in experimentation in political science real or is it just becoming more acceptable to do experiments within the mainstream of the discipline? The increase in prominence of experimentation is evidenced by the increase in visibility in the major journals, as supported by Druckman et al., Hoekstra and McGraw, and our own analysis. But such studies, by focusing on major journals, tend to understate the long history of experimental work in political science. Moreover, a closer look at experimental work in political science shows that the literature is not nearly as small nor is it as occasional in previous years as these studies would suggest. Experimentation in political science has been large enough to generate several articles on the method and reviews of the literature such as Brody and Brownstein's (1975) chapter in the *Handbook of Political Science*, Miller's (1981) chapter in the *Handbook of Political Communication*, and Bositis and Steinel's (1987) review article in *Political Behavior*. In 1991, Thomas Palfrey edited the volume *Laboratory Research in Political Economy,* highlighting experimental work evaluating formal models in political science, and in 1993a Donald Kinder and Palfrey edited a volume on experimental political science, *Experimental Foundations of Political Science*, which contained 20 experimental studies in political science and encompassed experimental work by both political economists

[3] McGraw and Hoekstra limit their search to experiments they classify as randomized. As noted earlier, in the coming chapters we discuss these classifications.

and political psychologists. All of these appeared more than 15 years ago, clearly before the perceived recent increase in experimental political science.

Bositis and Steinel's (1987) extensive review of the experimental literature in political science provides strong evidence for the longevity and size of experimentation. They analyzed 217 political science–related experiments that had been published from 1924 to 1985 (but note that these are just a subset of more than 300 such experiments that they found, as discussed later). Of these, they identified nine published experiments in political science prior to 1950, which most date as the beginning of the behavioral revolution in political science. Most political scientists are aware of Harold Gosnell's 1920s field experiment on the effect of information and encouragement on voter turnout in Chicago – the first known experiment in political science.[4] But less well known are the early experiments conducted by Lund (1925), Rice (1929), Hartmann (1936), and Hovland et al. (1949), which Bositis and Steinel also classified as political science–related. This is probably because these experiments appeared not in political science journals, but in social psychology or sociology journals, or, in the case of Hovland, in a monograph on communication.

These experiments are noteworthy not only because they appeared early, but also because some illustrate types of experiments that are not that different from the types of experiments observed in political science today. For example, Lund manipulated arguments in a political debate to see if the order in which they were presented affected political attitudes, and Hartmann compared the effects of emotional and factual leaflets on voting behavior and electoral outcomes in the 1936 state and local elections in Allentown, Pennsylvania. Lund's work is a clear forerunner of the many priming and framing experiments that have been conducted in political science in the past and present. Similarly, Hartmann's work, like that of Gosnell, is an early example of conducting a field experiment in the context of a naturally occurring election, something that is now quite popular in twenty-first-century political science.

1.2.2 Political Science Experiments in the 1950s and 1960s

Bositis and Steinel contended that the 1950s' behavioral revolution was "a watershed period in the development of political science experiments."

[4] Some do not classify Gosnell's study as a "real" experiment because it did not use random assignment. We discuss the issue of defining what is a "real" experiment and the importance of random assignment in the coming chapters.

They focus on 26 published political science experiments during the 1950s and 34 in the 1960s, although as noted earlier, most were published in social psychology, sociology, or communication journals and monographs. One noteworthy exception was the first experimental paper to appear in the APSR, Eldersveld's (1956) study of the use of propaganda and voting in field experiments conducted during elections in Ann Arbor, Michigan. Bositis and Steinel found that experimentalists examined questions of group conformity, opinion formation, and jury behavior in these two decades.

Most striking during the 1950s and 1960s was the beginning of a sizable experimental literature evaluating game-theoretic work, particularly in international relations. The *Journal of Conflict Resolution* was founded in 1957 with a strong interest in publishing both game-theoretic work and work using experiments to test the predictions of such games, publishing the first experimental paper in 1959. For more on the large experimental literature produced in the 1950s and 1960s studying game-theoretic models of international relations, see Mahoney and Druckman (1975), Guetzkow and Jensen (1966), and Guetzkow and Valadez (1981). Coupled with the focus on international relations, more generally political scientists began during this period to conduct experiments on game-theoretic models with other applications. For instance, in the 1960s, William Riker conducted experimental studies of three-player bargaining games using both male undergraduates and graduate evening business students at the University of Rochester (see Riker [1967]).

The literature on game-theoretic experiments by 1985 was substantial enough that Bositis and Steinel decided to limit the number of studies they included in their analysis of experimental political science and these are not included in their counts. They remark:

> A large number of experiments of interest to political scientists appear in the voluminous literature on gaming. For example, the *Journal of Conflict Resolution* alone has published over 100 such experiments. In view of our intention to provide a broad perspective of political science experiments, we have included only a sample of the gaming experiments in our corpus of experiments, since their great number would overwhelm and distort the distribution of experiments over time. (p. 280, note 4)

1.2.3 The Rise in Experimentation in the 1970s and 1980s

A Journal and a Notable Field Experiment

Thus, during the 1950s and 1960s, experiments were conducted that examined a wide variety of political science questions. Bositis and Steinel reported

a tripling of non-game-theoretic experimental research in the 1970s, with a count of 96 publications and another 52 publications from 1980 to 1985. In the 1970s, experimental research in political science even had its own journal, *The Experimental Study of Politics*, which was out of existence by 1981.[5] Bositis and Steinel contended that the passing of the journal was actually a positive sign of the acceptance of experimental work in mainstream research since they found that the number of experimental publications continued to increase despite its demise and they argued that a specialized journal suggested that experiments were not a conventional method. However, the demise of the journal does illustrate a lack of interest at the time among political scientists in the methodology of experiments.

One notable field experiment published at this time in the *Midwest Journal of Political Science* (the forerunner of the AJPS) is Blydenburgh's (1971) study of campaign techniques in a naturally occurring legislative election in Monroe County, New York. Blydenburgh was able to secure the cooperation of both candidates to manipulate their methods of contacting voters between in-person meetings and telephone calls according to the experimental design. He found something that has been the focus of recent experimental work on turnout in political science – that personal contacts did affect voter preferences, but that telephone solicitation had no effect.

The Increase in Laboratory Work

The 1970s also saw sizable growth in laboratory experimental work with a considerable spread of such work to a number of political science departments. Political psychology began to emerge as a separate field, with researchers receiving training in psychological experimental methods.[6] During the 1970s, an experimental laboratory focused on political psychology experiments was set up by Joseph Tanenhaus and Milton Lodge at the State University of New York (SUNY) at Stony Brook, where experimental research continues to be a strong interest.[7] In the late 1970s, Donald Kinder and Shanto Iyengar collaborated on experiments on the effects of the news media on public opinion at Yale University. Kinder went on to develop

[5] Iyengar (forthcoming) reports that the journal was founded by James Dyson and Frank Scioli and that other noted political scientists involved in the enterprise were Marilyn Dantico, Richard Brody, Gerald Wright, Heinz Eulau, James Stimson, Steven Brown, and Norman Luttbeg.

[6] Iyengar (forthcoming) cites the Psychology and Politics Program at Yale University, founded by Robert Lane, as an "important impetus" for political psychology.

[7] Iyengar (forthcoming) reports that when SUNY Stony Brook was founded in the early 1960s, "the political science department was given a mandate to specialize in behavioral research *and* experimental methods" and that in 1978 "the department moved into a new building with state-of-the-art experimental facilities."

a strong program in experimental political psychology at University of Michigan and Iyengar joined David Sears at the University of California, Los Angeles (UCLA), to promote experimental political psychology. A large number of political science experimentalists received their training at Stony Brook, Michigan, and UCLA.

Related to the experimental literature on games in international relations that began in the 1950s and 1960s is the continued growth of experimental research by political economists in the 1970s and 1980s. At this time, Charles Plott established an experimental laboratory for political science and economics at the California Institute of Technology.[8] Numerous political scientists have been trained in experimental political economy at Caltech. In the 1980s, future Nobel Prize winner Elinor Ostrom at Indiana University began collaborating with experimental economists to study common pool resource and public goods problems. In the late 1980s, her student Rick Wilson at Rice University began to build a program in experimental political science and collaborate with experimentalists in sociology and economics. And at Michigan State University one of us (Williams) began to build an experimental political science agenda. In 1991, Thomas Palfrey, also at Caltech, produced his edited volume on laboratory experimental political economy.

1.2.4 Not New Research, But New in Prominence

In summary, experimental work in political science has a long history and has been more substantial than most recognize. Many who focus on the recent increase in experimental research in major political science journals implicitly understate and minimize the large quantity of experimental work of all types conducted in the latter half of the twentieth century. Yet, there is no question that, even as much experimental work was being produced within the discipline, prominent political scientists questioned its value and it was not considered a mainstream approach into the late 1990s. Much experimental work seems to have been ignored. As evidence of this view, Druckman et al. quote Lijphart's (1971, p. 684) remark that experiments "can only rarely be used in political science because of practical and ethical impediments," and point out that one principal methods text from 1994, King et al. (1994, p. 125), claimed that experiments were useful primarily in understanding nonexperimental design.

[8] We focus on the growth of experimental laboratories especially designed for political science research. The pathbreaking work of Vernon Smith in economics and Daniel Kahneman in psychology led them to jointly receive the Nobel Prize in Economics in 2002. For a history of experimental economics, see Guala (2005) and Roth (1993, 1995). For a history of experimental social psychology, see Rodriguez and Levine (1999).

A sign of the increasing interest in experiments occurred in 1996–1997, when Elinor Ostrom served as president of the American Political Science Association. However, she found when she addressed most of the regional association meetings, as is the norm, that many reacted negatively to her emphasis on the value added from experiments (Ostrom, 2007). So the question is, why the recent change in the perceived value of experiments in political science? Why are the mainstream journals and prominent political scientists more friendly to experiments now?

1.2.5 Is It the Artificiality?

A discipline becomes experimental when the variables of theoretical interest are susceptible to experimental control and manipulation.[9] For example, as Friedman and Sunder note: "Experimentation in physics became routine only after Newton and others created theoretical concepts (such as force, mass, etc.) suitable for controlled manipulation" (1994, p. 122). Similarly, psychology became an experimental science when psychologists switched from an emphasis on studying "consciousness," using introspection, to studying behavior, using experiments. Psychology became an experimental science in the latter half of the nineteenth century. The advent of statistical measures to facilitate experimentation led to experimental work in social psychology in the 1930s and 1940s through the influence of Kurt Levin and others. Political science also seemed ripe for an increase in the prominence of experimental work.

Yet, the hypotheses of concern to political scientists during much of the 1950s, 1960s, and 1970s (and that continue to be most important for many political scientists) generally are viewed as especially inappropriate for experiments because experiments would be too divorced from the naturally occurring political environment. Political science, as opposed to psychology, is organized around the study of a specific "real-world" behavioral domain. For this reason, political scientists have traditionally and reasonably worried about artificiality of any sort. Experimentation, by introducing artificiality, seemed hardly useful as a method.

The unwillingness to strip to an artificial world cannot be a complete explanation for why experimental political science did not become prominent earlier. For example, during the same period when political science mainstream researchers avoided experiments, microeconomic theory was similarly nonexperimental despite the fact that the discipline was built

[9] We discuss the role of control and manipulation in experimentation in Section 2.4.2.

on formal assumptions of a stylized artificial world. Because economists, like political scientists, were primarily interested in empirical research that could answer their hypotheses about the real-world domain that they cared about, they were uninterested in experimental research even though they were comfortable with theoretical models that were highly artificial.

Yet, although the resistance to experimental economics was strong for many years, experimental economics became prominent in the mid-1990s when a *Handbook of Experimental Economics* was published, along with several textbooks, and the journal *Experimental Economics* started publication in the late 1990s and appears in little danger of demise. Seven years before the Nobel Prize committee honored Elinor Ostrom, Vernon Smith received a Nobel Prize for his experimental research; Reinhard Selten, who is a prominent experimental economist, also has received the Prize (1994). Of particular note is the fact that experiments conducted by Roger Myerson (a 2007 Nobel Prize winner) were political economic experiments on voting. Thus, while prominent economists and political scientists may have been equally unfriendly to experiments until the twenty-first century, experimental economics has arguably advanced significantly. In so doing, experimental economics has had a strong influence on experimental political science, as we explore in this book.

1.3 Why Experiments Have Received More Interest

1.3.1 Is It Technology?

Despite these preferences for survey, archival, and other observational data, political scientists are turning to experiments as a mainstream approach. One seemingly obvious explanation is the technological advances that have made it easier to conduct some experiments, lessening the practical impediments mentioned by Lijphart. For computer-assisted (CATI) survey experiments (discussed in Section 8.2.1), technology no doubt is one of the driving factors behind their increased use, as remarked by Sniderman and Grob (1996). They note that, prior to the invention of CATI, surveys had to be printed and distributed in advance and were very difficult to use as an experimental instrument. In the nine years since their review of survey experiments, technology has made them even more useful as a technique because researchers can now use web-based instruments via private entities such as Knowledge Networks and Harris Interactive.[10]

[10] See, for example, Clinton and Lapinski (2004) in Example 2.3.